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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,616	11/01/2006	Ulrike Rockrath	PAT-00 330	3608

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EXAMINER	
FRANK, NOAH S	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
03/26/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/595,616	ROCKRATH ET AL.	
	Examiner	Art Unit	
	NOAH FRANK	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 11-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woltering et al. (WO 02/38685, citations based on English equivalent, US 7,041,729) in view of Mayer et al. (EP 0 708 788, citations based on English equivalent, US 6,372,875) and Ott et al. (DE 100 40 223, citations based on English equivalent, US 2003/0144413) and evidenced by Wilmes et al. (US 5,981,653).

Considering Claims 1-2, 5-6, 9: Woltering et al. teaches pseudoplastic powder clearcoat slurrys comprising particles which are solid and/or high viscosity and are dimensionally stable under storage and application conditions and comprise as binder at least one polyol (Abs). The binder will therefore be incorporated into the dimensionally stable particles. The slurry also comprises water (8:60-65) and hence is aqueous. The binder preferably has a minimum film-forming temperature (Tg) greater than 30ºC (8:40-45), must carry hydroxyl groups (i.e. it is a polyol) (4:15-20), and may be polyurethanes (4:35-45). Woltering teaches the highly suitable polyurethanes being those described in EP 0 708 788 (5:15), which comprise cycloaliphatic diisocyanates such as isophorone diisocyanate and dicyclohexylmethane diisocyanate (6:20-35 of

Mayer). At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the polyurethanes, as taught in Mayer, in the invention of Woltering, as the highly suitable polyurethanes taught in Woltering (5:15 of Woltering).

Woltering does not teach the polyurethanepolyol free of ionic and potentially ionic groups. However, Ott et al. teaches pseudoplastic powdered lacquer slurries wherein "particle sizes for use in accordance with the invention are obtained even without the aid of additional external emulsifiers if the binder comprises ion-forming groups" and "it is preferred to aim for a low level of such groups, since when the customary crosslinking agents are used, free groups of this kind remain in the film and may reduce the resistance to ambient substances and chemicals" (¶0068-9). By removing the ionic groups from the polyurethane, the polyol would be substantially hydrophobic. Woltering and Ott are analogous art because they are from the same field of endeavor, namely pseudoplastic aqueous dispersions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used external emulsifiers, as taught by Ott, in the invention of Wolterling, in order to increase the resistance to ambient substances and chemicals. Additionally, while it seems antithetical to use external emulsifiers when the prior art teaches a preference for internal emulsifiers, Wilmes et al. teaches aqueous polyurethane powder coating compositions wherein it is possible to use polyhydroxyl compounds which are not hydrophilic or are not sufficiently hydrophilic to be water dispersible, provided that they are blended with external emulsifiers (3:45-50). It is therefore clear from the prior art that external emulsifiers are an equivalent

alternative to internal emulsifiers, and coupled with Ott's preference for a minimal amount of free ionic groups, an obvious modification of the prior art.

Considering Claim 3: Wolterling does not teach the polyol being a diol. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. MPEP 2144.05. The functionality of the polyol controls the amount of crosslinking, and subsequently the hardness of the coating. Consequently, it would be obvious to optimize. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. MPEP 2144.05.

Considering Claim 4: Woltering does not teach the polyurethanepolyol being linear. However, Mayer et al. teaches using linear polyols in order to obtain a prepolymer of great flexibility (5:15-20). Woltering and Mayer are combinable because they are form the same field of endeavor, namely polyurethane based coating compositions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have made the polyurethanepolyols linear, as taught by Mayer, in order to make the final coating flexible.

Considering Claim 7: Woltering teaches the polyurethanepolyols being those taught in Mayer et al. (EP 0 708 788) (5:15). Mayer et al. teaches using aliphatic or cycloaliphatic isocyanates (5:45-50), which would result in a polyurethane substantially free of aromatic structural units. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used aliphatic or cycloaliphatic isocyanates,

as taught by Mayer, in the invention of Woltering as the highly suitable polyurethanes taught in Wotlering (5:15 of Woltering).

Considering Claim 8: Woltering teaches the polyol binder present in an amount from 9 to 60% by weight, based on the solids of the powder slurry (5:25-30).

Considering Claims 11-12: Woltering teaches using the slurry of the invention as a coating for automotive finishing, construction coating, coil coating, and container coating (10:10-20).

Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Woltering et al. (WO 02/38685, citations based on English equivalent, US 7,041,729) in view of Mayer et al. (EP 0 708 788, citations based on English equivalent, US 6,372,875) and Ott et al. (DE 100 40 223, citations based on English equivalent, US 2003/0144413) and evidenced by Wilmes et al. (US 5,981,653).

Considering Claim 13: Woltering et al. teaches pseudoplastic powder clearcoat slurrys comprising particles which are solid and/or high viscosity and are dimensionally stable under storage and application conditions and comprise as binder at least one polyol (Abs). The binder will therefore be incorporated into the dimensionally stable particles. The system is diluted with water (8:15-20) and hence is aqueous. The binder preferably has a minimum film-forming temperature (Tg) greater than 30°C (8:40-45), must carry hydroxyl groups (i.e. it is a polyol) (4:15-20), and may be polyurethanes (4:35-45). Woltering teaches the highly suitable polyurethanes being those described in EP 0 708 788 (5:15), which comprise cycloaliphatic diisocyanates such as isophorone

diisocyanate and dicyclohexylmethane diisocyanate (6:20-35 of Mayer). At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the polyurethanes, as taught in Mayer, in the invention of Woltering, as the highly suitable polyurethanes taught in Wotlering (5:15 of Woltering).

Woltering does not teach the polyurethanepolyol free of ionic and potentially ionic groups. However, Ott et al. teaches pseudoplastic powdered lacquer slurries wherein "particle sizes for use in accordance with the invention are obtained even without the aid of additional external emulsifiers if the binder comprises ion-forming groups" and "it is preferred to aim for a low level of such groups, since when the customary crosslinking agents are used, free groups of this kind remain in the film and may reduce the resistance to ambient substances and chemicals" (¶0068-9). By removing the ionic groups from the polyurethane, the polyol would be substantially hydrophobic. Woltering and Ott are analogous art because they are from the same field of endeavor, namely pseudoplastic aqueous dispersions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used external emulsifiers, as taught by Ott, in the invention of Woltering, in order to increase the resistance to ambient substances and chemicals. Additionally, while it seems antithetical to use external emulsifiers when the prior art teaches a preference for internal emulsifiers, Wilmes et al. teaches aqueous polyurethane powder coating compositions wherein it is possible to use polyhydroxyl compounds which are not hydrophilic or are not sufficiently hydrophilic to be water dispersible, provided that they are blended with external emulsifiers (3:45-50). It is therefore clear from the prior art that external emulsifiers are an equivalent

alternative to internal emulsifiers, and coupled with Ott's preference for a minimal amount of free ionic groups, an obvious modification of the prior art.

Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woltering et al. (WO 02/38685, citations based on English equivalent, US 7,041,729) in view of Mayer et al. (EP 0 708 788, citations based on English equivalent, US 6,372,875) and Ott et al. (DE 100 40 223, citations based on English equivalent, US 2003/0144413) and evidenced by Wilmes et al. (US 5,981,653) and in view of Ott et al. (US 6,485,793).

Considering Claims 14-15: Woltering et al. teaches pseudoplastic powder clearcoat slurrys comprising particles which are solid and/or high viscosity and are dimensionally stable under storage and application conditions and comprise as binder at least one polyol (Abs). The binder will therefore be incorporated into the dimensionally stable particles. The slurry also comprises water (8:60-65) and hence is aqueous. The binder preferably has a minimum film-forming temperature (Tg) greater than 30ºC (8:40-45), must carry hydroxyl groups (i.e. it is a polyol) (4:15-20), and may be polyurethanes (4:35-45). Woltering teaches the highly suitable polyurethanes being those described in EP 0 708 788 (5:15), which comprise cycloaliphatic diisocyanates such as isophorone diisocyanate and dicyclohexylmethane diisocyanate (6:20-35 of Mayer). Mayer additionally teaches that the NCO:OH ratio is between 2:1 to 1:1 (4:65-67). At the time of the invention a person of ordinary skill in the art would have found it

obvious to have used the polyurethanes, as taught in Mayer, in the invention of Woltering, as the highly suitable polyurethanes taught in Woltering (5:15 of Woltering).

Woltering does not teach the polyurethanepolyol free of ionic and potentially ionic groups. However, Ott et al. teaches pseudoplastic powdered lacquer slurries wherein "particle sizes for use in accordance with the invention are obtained even without the aid of additional external emulsifiers if the binder comprises ion-forming groups" and "it is preferred to aim for a low level of such groups, since when the customary crosslinking agents are used, free groups of this kind remain in the film and may reduce the resistance to ambient substances and chemicals" (¶0068-9). By removing the ionic groups from the polyurethane, the polyol would be substantially hydrophobic. Woltering and Ott are analogous art because they are from the same field of endeavor, namely pseudoplastic aqueous dispersions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used external emulsifiers, as taught by Ott, in the invention of Wolterling, in order to increase the resistance to ambient substances and chemicals. Additionally, while it seems antithetical to use external emulsifiers when the prior art teaches a preference for internal emulsifiers, Wilmes et al. teaches aqueous polyurethane powder coating compositions wherein it is possible to use polyhydroxyl compounds which are not hydrophilic or are not sufficiently hydrophilic to be water dispersible, provided that they are blended with external emulsifiers (3:45-50). It is therefore clear from the prior art that external emulsifiers are an equivalent alternative to internal emulsifiers, and coupled with Ott's preference for a minimal amount of free ionic groups, an obvious modification of the prior art.

Wolterling does not teach the polyurethanepolyol made from cycloaliphatic diols. However, Ott et al. ('793) teaches aqueous polyurethane dispersions comprising low molecular mass cycloaliphatic diols (9:40-45). Woltering and Ott ('793) are analogous art because they are from the same field of endeavor, namely aqueous polyurethane dispersions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used cycloaliphatic diols, as taught by Ott ('793), in the invention of Wolterling, in order to improve the weathering stability of the coating (¶0023 of Ott '413).

Considering Claim 16: Woltering et al. does not teach the aqueous dispersion comprising at least five cycloaliphatic structural units. However, it is understood that when using chemicals, more than one molecule of each unit will be present, and therefore five cycloaliphatic structural units will be present.

Considering Claims 17-18: Woltering et al. teaches using mixtures of binders (5:15-20), as well as using a polyacrylate comprising hydroxyethyl methacrylate (11:30-35).

Considering Claim 19: Woltering et al. teaches using a blocked polyisocyanate crosslinking agent (5:55-60).

Considering Claim 20: Woltering et al. teaches the slurry having a solids content of from 10 to 60% by weight (9:25-26).

Response to Arguments

Applicant's arguments filed 1/30/09 have been fully considered but they are not persuasive. Please see the new rejection as set forth above.

In response to applicant's allegations of unexpected results, the table shows a comparison between the absence of a polyurethanepolyol and its presence, however this shows nothing regarding the presence of internal or external emulsifiers. Additionally, the closest prior art contains polyurethanepolyols with internal emulsifiers.

In response to applicant's arguments that the modification of the prior art would render it unsuitable for its intended purpose, the intended purpose is not the fact that the polyol contains ionic groups, but to make a slurry. Therefore, the intended purpose could still be achieved with external emulsifiers. The prior art does not teach away from external emulsifiers, but teaches towards internal emulsifiers and does not state any inherent disadvantages with external emulsifiers.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NF
3-23-09

/Harold Y Pyon/
Supervisory Patent Examiner, Art Unit 1796